

**Exhibit A**

1. A hose coupling having an area of peak crimp force, said hose coupling comprising:

an inner sleeve having a first end, a second end opposite said first end, and a pair of annular upset beads therebetween, said inner sleeve further having an inner diameter and an outer diameter thereon, said outer diameter having at least one projection thereon;

a hose having an inner diameter positioned over said outer diameter of said inner sleeve, said at least one projection of said inner sleeve interlocking with said hose to resist axial movement of said hose relative to said hose coupling;

an outer sleeve having a terminating end sandwiched between said pair of annular upset beads of said inner sleeve to prevent axial movement relative to said inner sleeve, said outer sleeve further having an inner diameter circumscribing said hose, said inner diameter of said outer sleeve further including at least one depression therein formed by a crimping operation, said at least one depression interlocking with said hose to further resist axial movement of said hose relative to said hose coupling; and

a reinforcing ring positioned within said inner diameter of said inner sleeve concentric with said area of peak crimp force, such that said reinforcing ring resists deformation of said inner sleeve during said crimping operation.

2. The hose coupling according to claim 1, wherein said second end of said inner sleeve is flared.

3. The hose coupling according to claim 2, wherein said second end of said inner sleeve is received within a second coupling, said second coupling comprising:

a tubular body having an annular upset bead;  
a cage axially retained by said annular upset bead; and  
a spring disposed within said cage, said second end of said inner sleeve being retained between said cage and said spring of said second coupling.

4. The hose coupling according to claim 1, wherein said reinforcing ring is made of a rigid material.

5. The hose coupling according to claim 4, wherein said reinforcing ring is made of steel.

6. A hose coupling having an area of peak crimp force, said hose coupling comprising;

an inner sleeve having a first end, a second end opposite said first end, and a pair of annular upset beads therebetween, said inner sleeve further having an inner diameter and an outer diameter thereon, said inner diameter having at least one groove therein, said outer diameter having at least one projection thereon;

a hose having an inner diameter positioned over said outer diameter of said inner sleeve, wherein said at least one projection of said inner sleeve interlocks with said hose to resist axial movement of said hose relative to said hose coupling;

an outer sleeve having a terminating end sandwiched between said pair of annular upset beads of said inner sleeve, said outer sleeve further having an inner diameter circumscribing said hose, said inner diameter of said outer sleeve further

having at least one depression formed by a crimping operation, said at least one depression being concentric with said at least one groove of said inner sleeve, wherein said at least one depression interlocks with said hose to further resist axial movement of said hose relative to said hose coupling; and

a reinforcing ring positioned within said at least one groove in said inner diameter of said inner sleeve and concentric with said area of peak crimp force, whereby said reinforcing ring resists deformation of said inner sleeve during said crimping operation, said reinforcing ring having an inner diameter at least as great as said inner diameter of said inner sleeve, whereby said reinforcing ring permits full cross sectional fluid flow through said hose coupling.

7. The hose coupling according to claim 6, wherein said second end of said inner sleeve is flared.

8. The hose coupling according to claim 7, wherein said second end of said inner sleeve is received within a second coupling, said second coupling comprising:

a tubular body having an annular upset bead;  
a cage received within and retained by said annular upset bead; and  
a spring disposed within said cage, said second end of said inner sleeve being retained between said cage and said spring of said second coupling.

9. The hose coupling according to claim 6, wherein said reinforcing ring is made of a rigid material.

10. The hose coupling according to claim 9, wherein said reinforcing ring is made of steel.

11. A reinforced hose coupling comprising:

a hose having an outer diameter and an inner diameter;  
an outer sleeve having an inner diameter circumscribing said outer diameter of said hose, said outer sleeve further having a plurality of depressions therein, said plurality of depressions interlocking with said hose to resist axial movement of said hose relative to said outer sleeve;  
an inner sleeve having an inner diameter and an outer diameter, said inner sleeve being adapted to be inserted into said inner diameter of said hose, said inner sleeve having at least one projection interlocking with said hose to resist axial movement of said hose relative to said inner sleeve; and  
at least one reinforcing ring situated within said inner diameter of said inner sleeve, said at least one reinforcing ring positioned between said plurality of depressions of said outer sleeve such that said at least one reinforcing ring resists deformation of said inner sleeve.

12. A reinforced hose coupling comprising:

a hose having an outer diameter and an inner diameter;  
an outer sleeve having an inner diameter circumscribing said outer diameter of said hose, said outer sleeve further having at least one depression therein, said at least one depression interlocking with said hose to resist axial movement of said hose relative to said outer sleeve;  
an inner sleeve having an inner diameter and an outer diameter, said inner sleeve being adapted to be inserted into said inner diameter of said hose, said inner sleeve having at least one projection interlocking with said hose to resist axial movement of said hose relative to said inner sleeve; and

at least one reinforcing ring situated within said inner diameter of said inner sleeve, said at least one reinforcing ring being positioned concentrically with said at least one depression of said outer sleeve such that said at least one reinforcing ring resists deformation of said inner sleeve.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

21133 4610  
VANOPHEM MEEHAN & VANOPHEM  
755 W BIG BEAVER  
SUITE 1313  
TROY, MI

48084

## NOTICE OF CONFIRMATION NUMBER ASSIGNMENT

(Confirmation Number Required For Electronic Filing System Submissions)

Starting November 29, 2000, newly filed utility and plant applications for patents become subject to publication, and pending utility and plant applications may be published on the request of applicants. See 35 USC 122(b) and Changes to Implement Eighteen-Month Publication of Patent Applications, 65 Fed. Reg. 57023 (September 20, 2000); 1239 Off. Gaz. Pat. Office 63 (October 10, 2000). See <http://www.uspto.gov/web/offices/dcom/olia/aipa/rulechgs.htm>. For applications filed before, but pending on, November 29, 2000, an applicant may request voluntary publication pursuant to 37 CFR 1.221. The request must include a copy of the application in compliance with the Office's Electronic Filing System (EFS) requirements and be accompanied by the publication fee (37 CFR 1.18(d)) and the processing fee (37 CFR 1.17(i)). See <http://www.uspto.gov/ebc/efs/index.html> for a discussion of the EFS requirements.

The EFS requirements include the use of a "confirmation number" in addition to the application number when submitting a specification for publication in order to ensure that the electronic submission is associated with the correct application number assigned to the application. This confirmation number is used in conjunction with the application number to identify a pending application. This procedure is necessary because many applications will have identical filing dates and similar application numbers and therefore a typographical error in the application number could result in the specification submitted via the EFS being placed in the wrong application if only the filing date and application number were used as the confirmation mechanism.

If an electronic copy of the data contained in this notice is desired, or if there are questions concerning this notice, contact the EBC Customer Support Center at (703) 305-3028.

Serial No.	Cnfrm No.	Filing	Attorney Dkt	Serial No.	Cnfrm No.	Filing	Attorney Dkt
09/142,736	2589	25-JAN-99	BSP102AUS	09/184,190	3996	02-NOV-98	LII150A-US
09/262,886	1161	08-MAR-99	GBE101D-US	09/273,202	6789	19-MAR-99	BTA100A-US
09/304,734	1096	04-MAY-99	LII153A-US	09/334,320	5204	16-JUN-99	FTP121A-US
09/346,051	1961	07-JUL-99	CDH100A-US	09/363,435	8123	29-JUL-99	TRO102B
09/376,514	6625	18-AUG-99	RSA193BUS	09/387,294	2412	31-AUG-99	GSH101A-US
09/391,554	8754	08-SEP-99	RSA139D-US	09/393,482	2779	10-SEP-99	FTP139AUS
09/425,480	9612	22-OCT-99	GSH104A-US	09/430,507	7402	29-OCT-99	FTP163A-US
09/430,574	7488	29-OCT-99	FTP152A-US	09/430,575	7489	29-OCT-99	FTP150A-US
09/438,832	9918	12-NOV-99	CEB106A-US	09/444,229	8369	19-NOV-99	JII100A-US
09/445,236	9683	24-JAN-00	WGA104AUS	09/450,456	7642	29-NOV-99	DKT98057A/BW
09/473,804	1482	28-DEC-99	BWA109AUS	09/504,140	7509	15-FEB-00	RSA253A US
09/522,023	4315	09-MAR-00	LII159A US	09/522,024	4313	09-MAR-00	LII160A US
09/542,410	5670	04-APR-00	LII157A US	09/542,897	5716	04-APR-00	FTP141A US
09/544,856	9533	07-APR-00	FTP140A US	09/612,147	7659	07-JUL-00	GBE101E US
09/650,165	9221	29-AUG-00	BDB100A US	09/661,949	9667	14-SEP-00	WRH100A-US
60/151,648	7395	31-AUG-99	GSH100P-US	60/167,161	4350	23-NOV-99	CEB112P-US
60/173,145	8766	27-DEC-99	KVM100PUS	60/173,330	9652	28-DEC-99	BWA108P-US
60/173,331	9653	28-DEC-99	BWA110PUS				

End of Report